

# OPENSPACE

Multi-scale, contextualized astrovisualization engine

Designed for

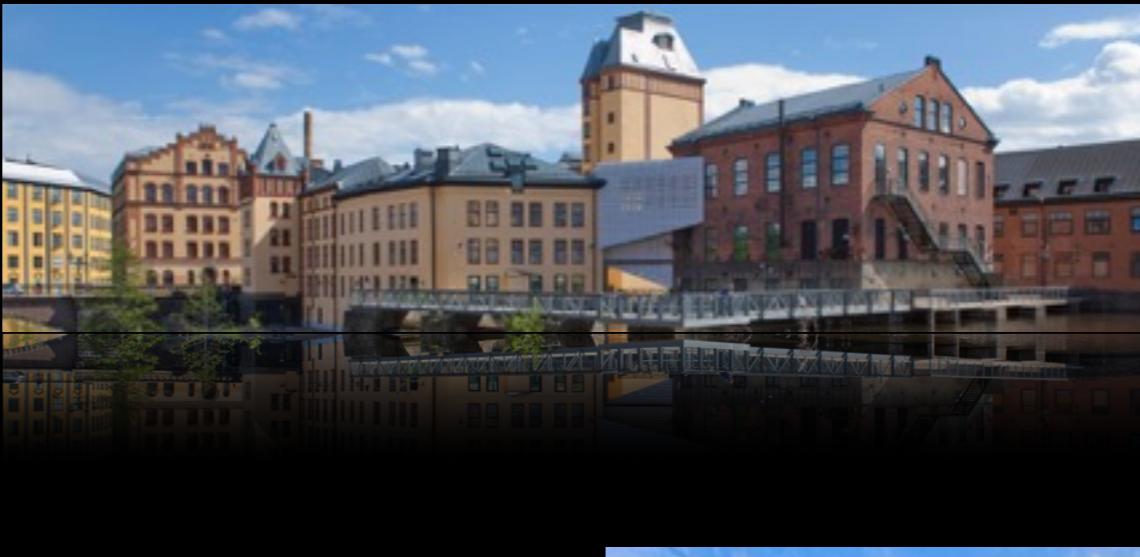
- Public dissemination of astrophysical data
- Research platform for visualization
- Scientific discovery



- Open Source — MIT license
- [https://github.com/OpenSpace/  
OpenSpace](https://github.com/OpenSpace/OpenSpace)
- Beta available for download  
[www.openspaceproject.com](http://www.openspaceproject.com)
- Since 2016, partially funded through  
the NASA Science Mission  
Directorate Science Education  
Cooperative Agreement Notice

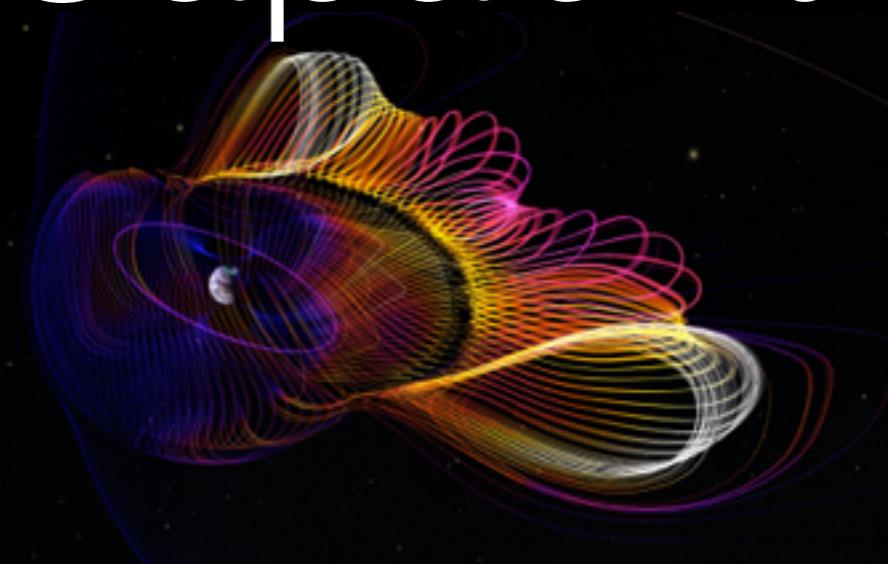


# Partnering Institutions



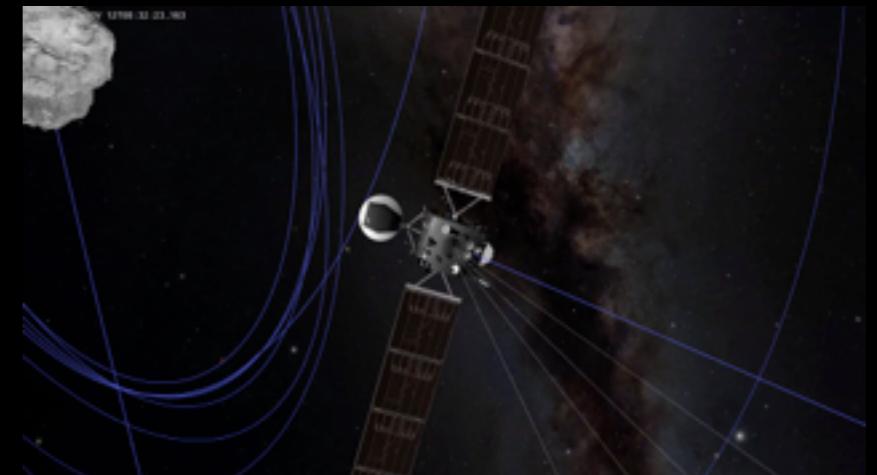
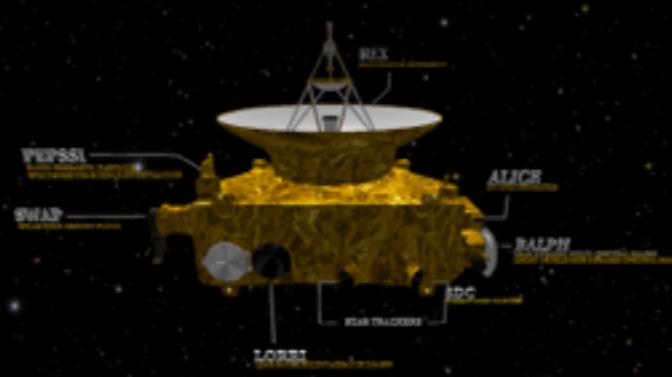
# OpenSpace Capabilities

- **Space Weather**



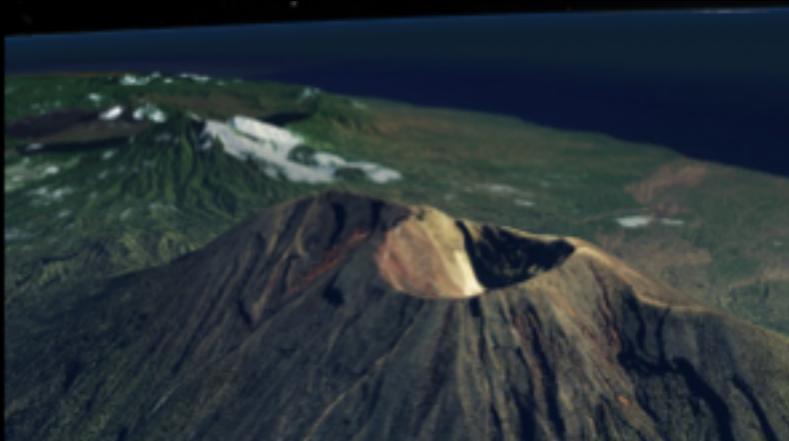
- **Space Missions**

- New Horizons



- Rosetta

- Osiris Rex



- Cassini & Messenger

- **Planetary Mapping**



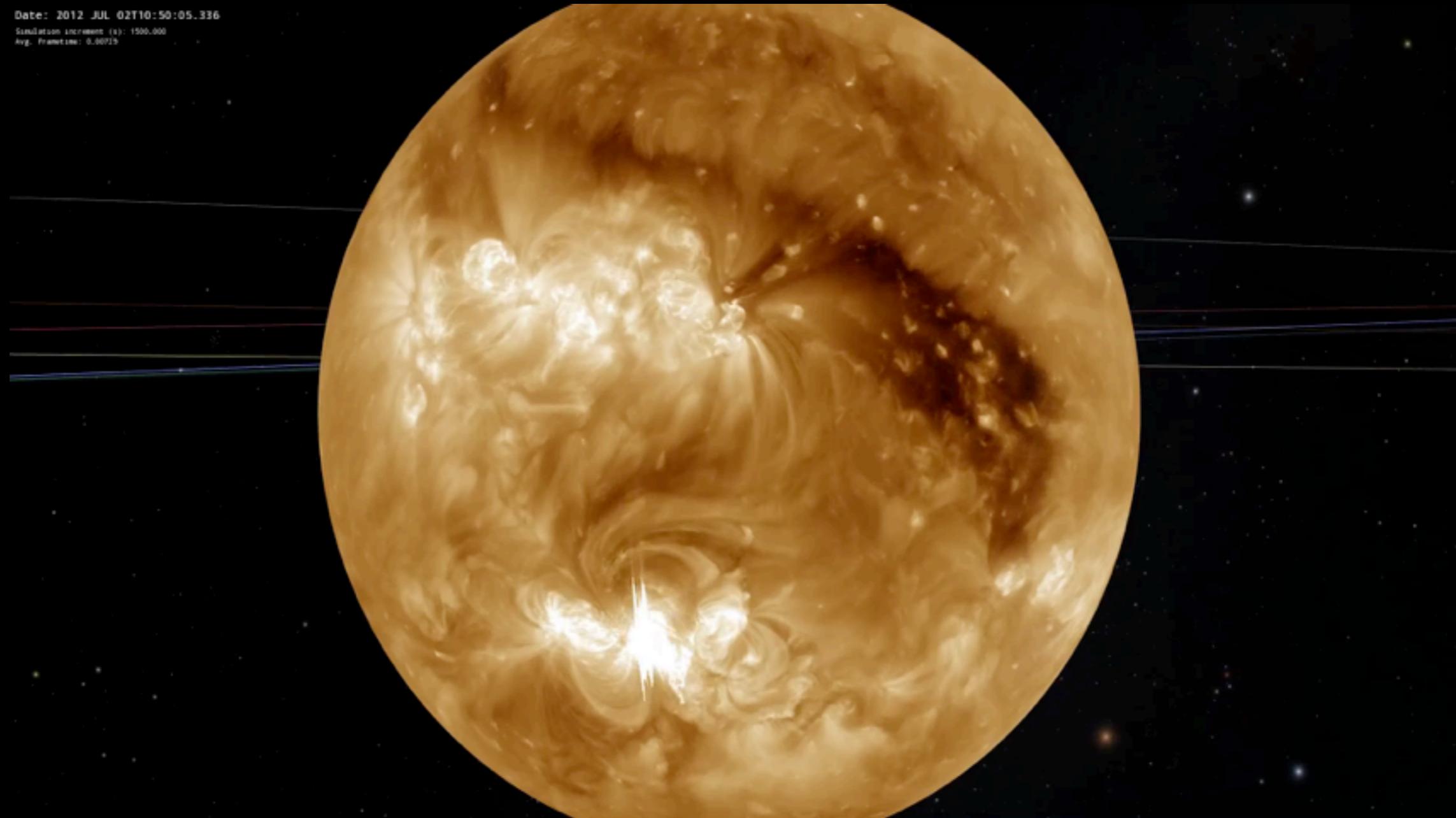
# Solar Browsing

streaming high resolution FITS  
from SOHO, SDO, STEREO A,B

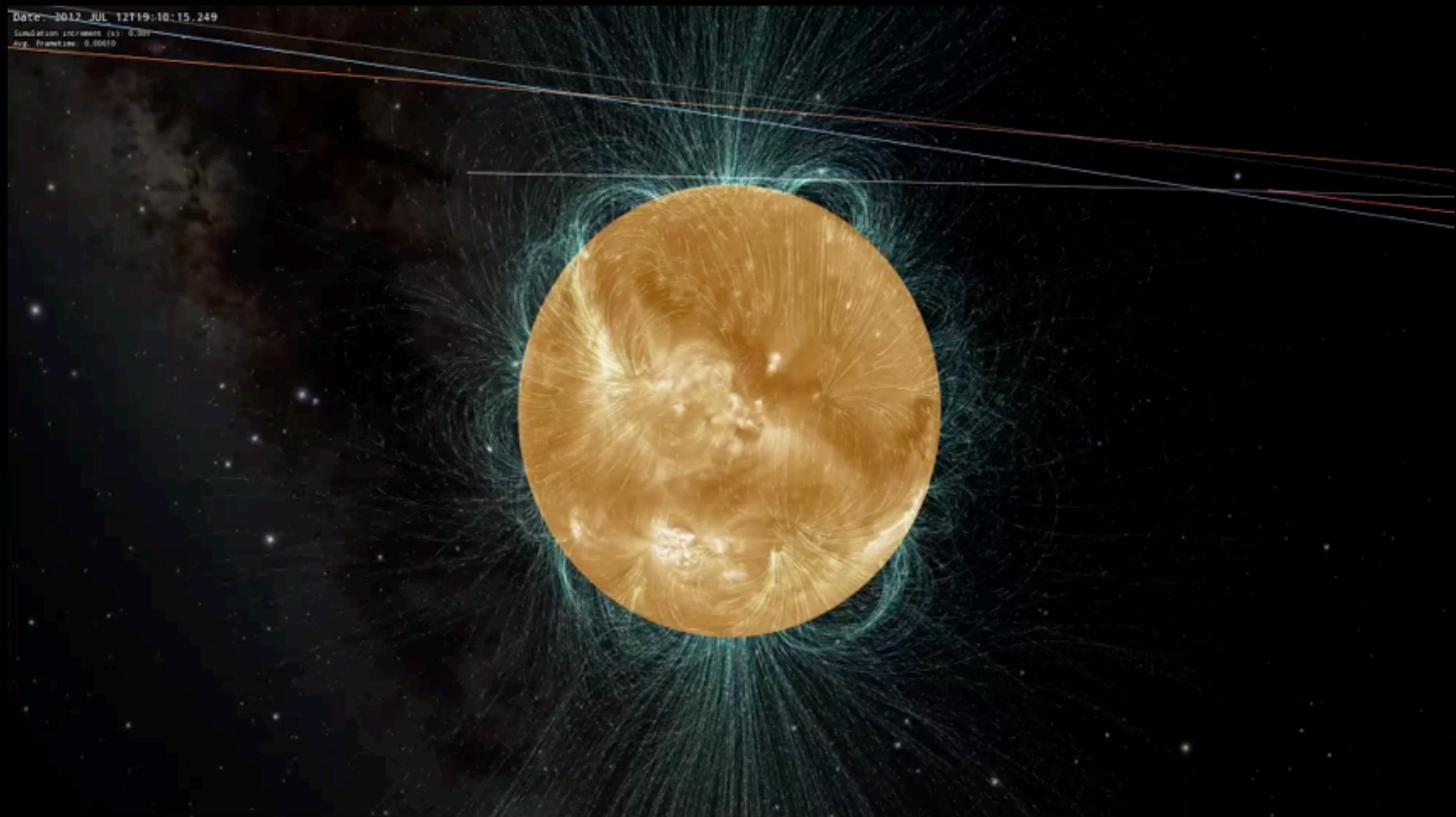
Date: 2012 JUL 02T10:50:05.336

Simulation increment (s): 1500.000

Avg. Frametime: 0.00025

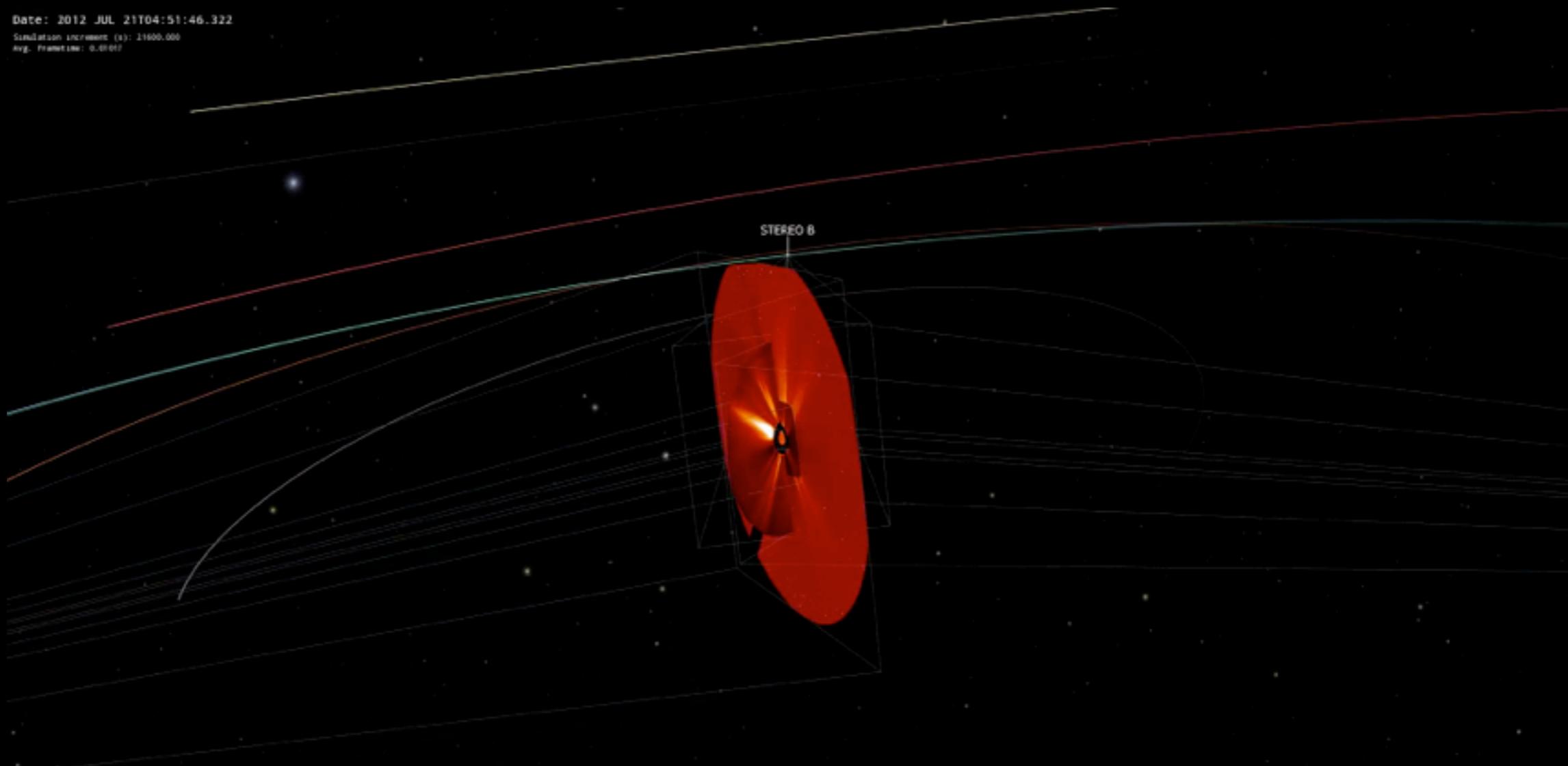


# PFSS



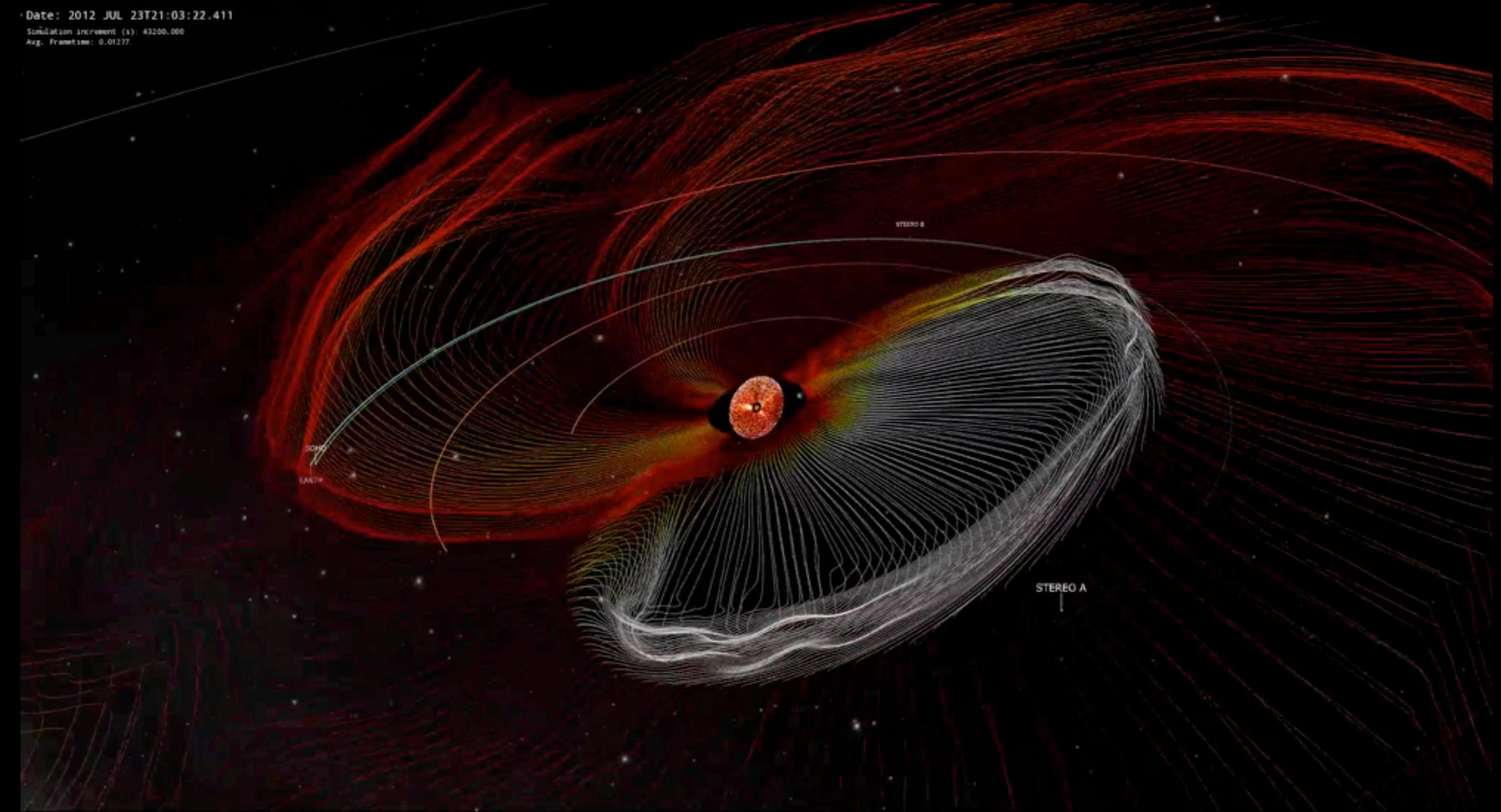
# Coronagraph Display

Date: 2012 JUL 21T04:51:46.322  
Simulation increment (s): 21600.000  
Avg. frametime: 0.00017



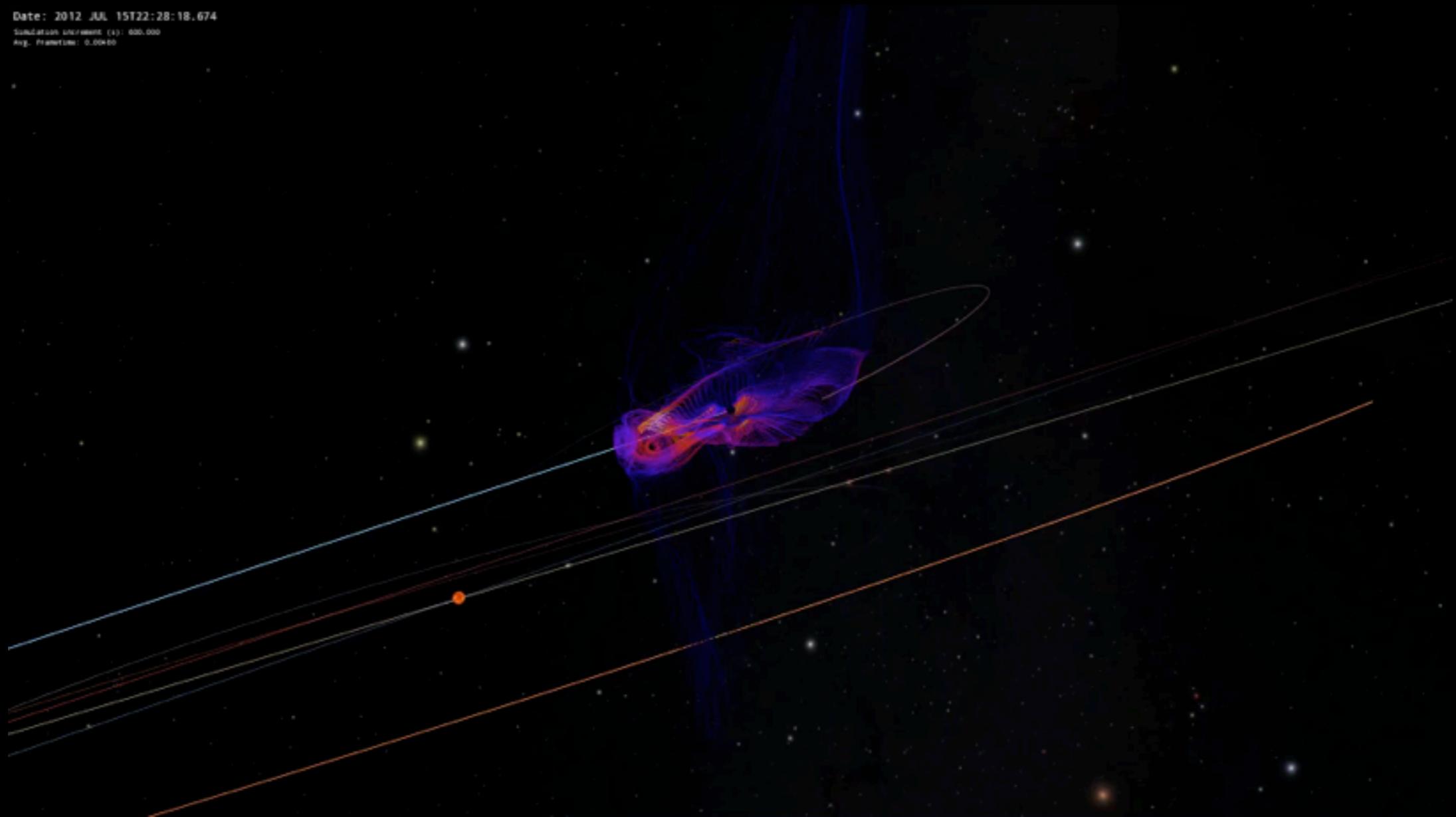
# Model-Data Synthesis

## ENLIL, SOHO, STEREO A,B



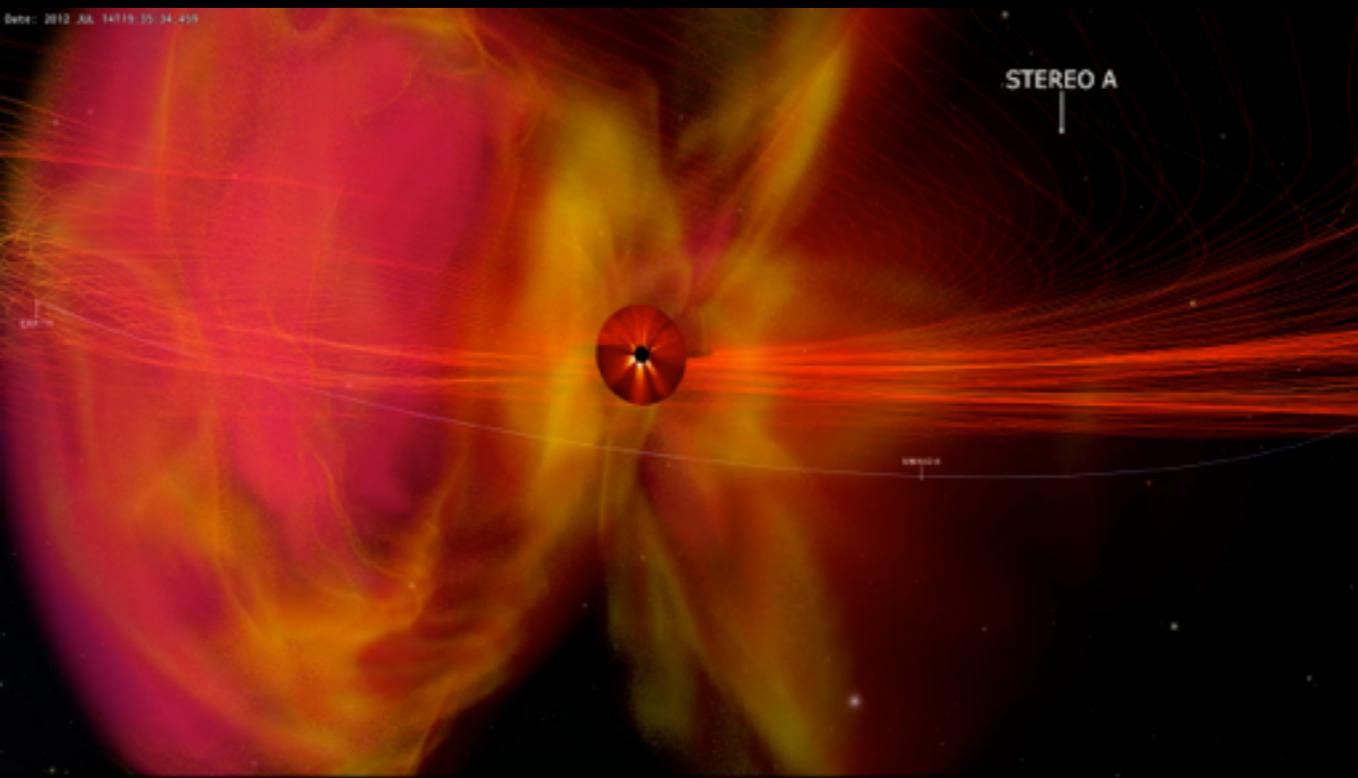
# BATSRUS

# Magnetosphere Field-Aligned Current



# Volume Rendering

ENLIL-CONE CME eruption



ENLIL - New Horizons



# Jonathan and Matthias Masters Thesis Objectives

- Expand existing time varying volume rendering
- Integrate MAS model
  - Q factor
  - MHD params
- Implement interactive field line tracing
- Work on tailoring the user interface for science discovery



Predictive Science Inc  
<http://www.predsci.com>